

REMARKS

Claims 1-35 were presented for examination and are pending. Claims 24-35 are withdrawn. Claims 1-23 are rejected. Reconsideration is respectfully requested.

The Restriction Requirement

Affirmation is made of the provisional election with traversed to prosecute the invention of Group I, claims 1-23. The Restriction requirement is respectfully traversed.

The process as claimed cannot be used to make other and materially different product. Further, the product as claimed cannot be made by another and materially different process. The Examiner offers the example that the product can be made by prefabricating the coating then attaching it to the substrate via a layer. This example would fall within the limitations of claim 24. Further, the inventor, a recognized expert in this field, asserts that it is not possible to prefabricate an overcoat bilayer for a multilayer reflective coating designed for use in extreme ultraviolet or soft x-ray applications and then attach it to the substrate.

Therefore, the restriction requirement should be withdrawn.

The Double Patenting Rejection

Claims 1-23 are provisionally rejected under 35 USC 101 as claiming the same invention as that of claims 1-23 of copending Application Serial No. 09/898,833.

The copending application was expressly abandoned on December 11, 2002. Therefore the rejection should be withdrawn.

The 35 U.S.C. § 102 Rejections

Claims 1-23 are rejected as being anticipated by Murakami et al. (6,295,164 or 6,160,867). The rejection is respectfully traversed.

The object of both references is to relieve stress in the multilayer coating. In '164, there is no layer for preventing interdiffusion between an oxidation resisting top layer of a bilayer and the top layer of the multilayer coating. In this reference, interdiffusion between the two layers of the multilayer coating is reduced by bombarding the first layer with an inert gas ion beam. The reference lacks a bottom overcoat layer affixed to a top layer of a multilayer reflective coating; and a top overcoat layer deposited on said bottom overcoat layer, wherein said bottom overcoat layer comprises material that prevents diffusion of said top overcoat layer into said top layer of said multilayer reflective coating, wherein said top overcoat layer comprises material that resists oxidation and corrosion and protects said multilayer reflective coating from oxidation. Emphasis added. The rejection of claims 2-23 should be withdrawn at least because they depend from claim 1. Therefore the rejection should be withdrawn.

The '867 reference is for the same purpose as '164 and is by the same inventor. This reference provides a multilayer coating, preferably of Mo and Si, and dopes the Si preferably with boron to reduce the internal stress of the multilayer coating. As above, the reference lacks a bottom overcoat layer of a material that prevents diffusion of a top

overcoat layer into the top layer of a multilayer reflective coating, wherein the top overcoat layer comprises material that resists oxidation and corrosion and protects the multilayer reflective coating from oxidation. The rejection of claims 2-23 should be withdrawn at least because they depend from claim 1. Therefore the rejection should be withdrawn.

Claim 1-23 are rejected under 35 USC 102(b) as being anticipated by Montcalm et al. (6,110,607 or 5,958,605) or Mirkarimi et al. (6,011,646) or Fukuda et al. (5,433,988) or Early et al. (5,265,143). The rejection is respectfully traversed.

Montcalm et al. (6,110,607) uses a thermal approach to relaxing stress of a multilayer coating. It lacks the elements of (i) a bottom overcoat layer of a material that prevents diffusion of a top overcoat layer into the top layer of a multilayer reflective coating and (ii) a top overcoat layer of a material that resists oxidation and corrosion and protects the multilayer reflective coating from oxidation as recited in the applicant's claim 1. Claims 2-23 depend from claim 1. Therefore the rejection should be withdrawn.

Montcalm et al. (5,958,605) uses a bilayer with a bottom layer of Si or Be on which is a top layer of an elemental compound that resists oxidation or corrosion. The bottom layers disclosed in the reference will not prevent interdiffusion. See the attached Declaration. Therefore the rejection should be withdrawn

Mirkarimi et al. (6,011,646) provides a buffer layer between the substrate and the multilayer for counteracting stress in the multilayer. This reference does not teach the limitations of the applicant's claim 1. Therefore the rejection should be withdrawn.

Fukuda et al. (5,433,988) provides a multilayer structure that retains a high reflection coefficient, has a high heat resistance and minimizes diffusion between layers. The reference does not teach a bilayer capping layer for a multilayer structure. The materials provided in the reference will not accomplish the limitations recited in applicant's claim 1. Therefore the rejection should be withdrawn.

Early et al. (5,265,143) is directed to removal of damaged multilayer coatings so that replacement coatings can be installed. The reference puts a barrier between the substrate and the multilayer coating. The reference does not teach a bilayer capping layer for a multilayer structure. Therefore the rejection should be withdrawn.

The Method Claims


Although claims 24-35 have been withdrawn by the Examiner, the applicant maintains that these claims should not be subject to Restriction (as discussed above), and are patentable over the cited references for at least the same arguments and evidence provided in this Response and the attached Declaration.

Conclusions

It is submitted that this application is in condition for allowance based on claims 1-35 in view of the amendments thereto and the foregoing comments.

If any impediments remain to prompt allowance of the case, please contact the undersigned at 925-456-2279.

Respectfully submitted,


John P. Wooldridge
Attorney for Applicant
Registration No. 38,725

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